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09/888,856	06/25/2001	Daren L. Dance	1192	1987

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Charles E. Gotlieb
Innovation Partners
Suite 300
540 University Avenue
Palo Alto, CA 94301

EXAMINER

STEVENS, THOMAS H

ART UNIT PAPER NUMBER

2123

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,856

Applicant(s)

DANCE ET AL.

Examiner

Thomas H. Stevens

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-29 were examined.

Section I: Non-Final Office Action (3rd Office Action)

Claim Interpretation

2. Office personnel are to give claims their "**broadest reasonable interpretation**" in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See *also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow") The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process. The Office denotes little distinction between a first tool, second tool etc. and the aggregate of various tools.

Claim Objection

3. Claim 1 is objected to for minor infraction: extra period at the end of the sentence. Correction is requested.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the claimed invention is directed to non-statutory subject matter.

5. Claims 1-29 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific asserted utility or a well established utility. The “tools” limitation produces the same quantity each time.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-29 also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention. In fairness, the specification discloses semiconductor wafers (page 29, 2nd paragraph) within the context of the tool groups. The Office suggest, if applicants wish to amend, that the claims reflect the specific utility of semiconductor wafers.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1's preamble is unsupportive of the simulation operation of a production system.

10. Claims 6 and 21 are rejected under 35 U.S.C. 112, second paragraph, by which the term "good unit" is a relative term, which renders the claim indefinite since the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

11. Claims 11 and 26 are rejected under 35 U.S.C. 112, second paragraph, by which the term "average amount of time" is a relative term, which renders the claim indefinite since the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 1-29 are rejected under 35 U.S.C. 103 (a) as obvious by Chen (US Patent 5,719,796), in view of Black et al. (US Patent 6,430,456) (hereafter Black). Chen teaches manufacturing tools (Chen: column 1, line 53) with manufacturing simulation (Chen: column 2, lines 36-45) but fails to teach the integration of the various

tools groups. Black teaches a method for changing the operational states of a process tool (Black: column 7, lines 45-51).

At the time of invention, it would have been obvious to one of ordinary skill in the art to modify Chen by Black to develop an improved method of manufacturing control for removing the correct process tool or tools from production that are contributing to the production of defective ICs and ensuring that any process tool returned to production will not contribute to the production of defective ICs (Black: column 3, lines 15-21).

Per claims 1 and 16: a computer system (Chen: column 4, line 58) simulation of operation of a production system (Chen: column 2, lines 35-45); first set of tool controlled by second set of at least one tool (Black: column 4, lines 8-15 and see claim interpretation); calculation production quantity (Chen: column 2, lines 53-61; statistic of the entire event) of at least one tool responsive to the quantity of the time received.

Per claims 2 and 17: quantity of time received is a quantity of time at least one of the tools in the second set is not operational (Black: column 4, lines 16-20; "a process tool is in a down state")

Per claims 3 and 18: first set comprises a production tool (Black: column 3, lines 15-20; mere mention tools as part of the production process).

Per claims 4 and 19: quantity of time comprises a percentage (Chen: column 6, lines 60-64; inherent to statistics).

Per claims 5 and 20: production quantity comprises a throughput (Chen: column 6, lines 26-27; examiner assumes the throughput as results).

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Per claims 6 and 21: production quantity (Black: column 3, lines 15-21 relationship between production the quantity of tools) comprises a good unit equivalents (vague: see 112nd rejection) produced per unit of time.

Per claim 7: plurality of sets and production quantity to the third set (see claim interpretation; Black: column 3, lines 15-20; mere mention tools as part of the production process).

Per claims 8, 9 and 24: the number of products provided to and by at least one of the plurality of sets of at least one tool (see claim interpretation; Black: column 3, lines 15-20; mere mention tools as part of the production process).

Per claim 10: production quantity comprises an amount of time at least (Black: column 7, lines 14-19) one of the plurality of sets of at least one tool takes to process a unit produced by said at least one tool.

Per claims 11 and 26: production quantity (Black: column 3, lines 15-21 relationship between production the quantity of tools) comprises an average amount of time (see 112nd rejection) at least one tool in the at least one of the plurality of sets takes to process a unit produced by said at least one tool in the set.

Per claims 12 and 27: production quantity (Black: column 3, lines 15-21 relationship between production the quantity of tools) comprises a number of tools in at least on of the plurality of sets of at least one tool responsive to at least one capacity (Black: column 8, lines 25-30; a relationship to the wafer and the process tool).

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Per claims 13 and 28: production quantity (Black: column 3, lines 15-21 relationship between production the quantity of tools) comprises a percent of utilization of the at least one tool in at least one of the plurality of sets.

Per claim 14, 15 and 29: performing a same step in the production (Black: column 3, lines 15-21 relationship between production the quantity of tools); same number of tools (**also see MPEP 2144.04, Section VI, B. Duplication of Parts**).

Section II: Response to Applicants' Arguments (2nd Office Action)

112

15. In light of the present status of the claims, the rejections stand.

102(b)

16. Applicants are thanked for addressing this issue. Rejection is withdrawn.

Citation to Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent 6,442,445 teaches a time series reduction tool control method.
- US Patent 6,308,107 teaches a pre-positioning routed material in a computer controlled manufacturing arrangement.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).


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If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Leo Picard ((571) 272-3749). The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

January 13, 2006

TS


Paul L. Rodriguez 1/12/06
Primary Examiner
Art Unit 2125